

AMENDMENTS TO THE DRAWINGS

The attached sheet of drawings includes changes to Fig. 8. This sheet, which includes Fig. 8, replaces the original sheet including Fig. 8. In Fig. 8, the previously omitted legend "Prior Art" has been added.

Attachment: Replacement Sheet

REMARKS

Reconsideration of this application is respectfully requested in view of the foregoing amendment and the following remarks.

The Applicant appreciates the Examiner's acknowledgement of allowable subject matter in claims 4, 5, 9 and 10.

By the foregoing amendment, claims 1-10, 11 and 15 have been amended, and claims 13, 14, 17 and 18 have been canceled without prejudice or disclaimer for filing in a continuation application. Thus, claims 1-12 and 15-16 are currently pending in the application and subject to examination.

In the Office Action mailed February 28, 2005, the Examiner objected to the specification and drawings. Specifically, the Examiner objected to the title of the specification as being non-descriptive, and to drawing Figure 8 for failing to include the legend "Prior Art". The title and drawing Figure 8 have been amended responsive to these objections. If any additional amendment is necessary to overcome the objections, the Examiner is requested to contact the Applicant's undersigned representative.

The Examiner rejected claims 1-3, 6-8, 11, 13, 15, 17 under 35 U.S.C. § 102(b) as being anticipated by U.S. Pat. No. 5,880,781 to Udagawa et al. ("Udagawa"). Under 35 U.S.C. § 103(a), the Examiner rejected claims 12, 14, 16, and 18 as being unpatentable over Udagawa et al. in view of U.S. Pat. No. 6,559,889 to Tanaka et al. ("Tanaka"). It is noted that claims 13, 14, 17 and 18 have been canceled, and claims 1-10, 11 and 15 have been amended. To the extent that the rejections remain applicable to the claims currently pending, the Applicant hereby traverses the rejections, as follows.

Applicant submits that none of the cited prior art, nor combination thereof, discloses or suggests at least the features of a drive circuit capable of conducting a symmetric readout operation in each set of $(m \times n)$ rows of photoelectric converter elements, wherein rows read-out by said symmetric readout operation are symmetrically distributed in the column direction of said array, said symmetric readout operation comprising a first readout operation for reading first electric charges from a first group of photoelectric converter element rows which have an asymmetric distribution with respect to any one row of the first group, into said vertical charge transfer channel regions; a jxn -rows transfer operation for transferring the read-out first electric charges jxn rows after said first readout operation, where j is an integer greater than one; and a second readout operation for reading second electric charges from a second group of photoelectric converter element rows which have an asymmetric distribution with respect to any one row of the second group, at positions jxn rows downstream of the rows of said first read-out operation, into said vertical charge transfer channel regions, to respectively add the read-out second electric charges to the transferred first electric charges in said vertical charge transfer channel regions, each one of said read-out second electric charges being added to a respective one of said transferred first electric charges of a same color, as claimed in claim 1, as amended.

For similar reasons to those discussed with regard to claim 1, the Applicant submits that none of the cited prior art, nor combination thereof, discloses or suggests at least the features of reading electric charges from a first group of photoelectric converter element rows which have an asymmetric distribution with respect to any one row of the group, into said vertical charge transfer channel regions; (b) transferring the

read-out electric charges jxn rows, where n is an integer greater than one, after said readout step (a); and (c) reading electric charges from a second group of photoelectric converter element rows which have an asymmetric distribution with respect to any one row of the group, at positions jxn rows downstream from the rows of said readout step (a), into said vertical charge transfer channel regions, to add the read-out and transferred electric charges of a same color to each other in said vertical charge transfer channel regions, as claimed in claim 6, as amended.

With regard to independent claim 11, the Applicant submits that none of the cited prior art, nor combination thereof, discloses or suggests at least the features of an array of color filters including a plurality of units, each unit consisting of two adjacent photoelectric converter element rows, said units being repeatedly and contiguously arranged in said array in a column direction, in which one color filter of the array is formed over each of said photoelectric converter elements, wherein, the first row of each unit has a first color layout of color filters arranged in a row direction and the second row of each unit has a second color layout of color filters arranged in the row direction, said second color layout being different from said first color layout...and a drive circuit capable of applying readout pulse voltages to said vertical charge transfer electrodes corresponding to said photoelectric converter element row having said first color layout in a first unit and to said vertical charge transfer electrodes corresponding to said photoelectric converter element row having said second color layout in a second unit, said second unit being at a position apart from said first unit by two photoelectric converter element rows in the column direction, as claimed in claim 11 as amended.

In addition, the Applicant submits that independent claim 15, as amended, is allowable over the cited prior art because the cited prior art does not disclose or suggest at least the features of classifying said vertical charge transfer electrodes into sets each of which includes 16 vertical charge transfer electrodes as one set, said 16 vertical charge transfer electrodes ranging from a first vertical charge transfer electrode to a 16th vertical charge transfer electrode succeeding one after another, and applying readout pulse voltages to said vertical charge transfer electrodes belonging to said photoelectric converter element row having said first color layout of said first unit, said first unit being selected from each said set and to said vertical charge transfer electrodes belonging to said photoelectric converter element row having said second color layout different from said first color layout of said second unit, said second unit being formed in positions beginning at a position apart from said first unit by four photoelectric converter element rows in the column direction; b) transferring the signal charge read out by said step a) through said vertical charge transfer channel regions for four photoelectric converter element rows in column direction; c) applying readout pulse voltages to said vertical charge transfer electrodes belonging to said photoelectric converter element rows of said first and second units, which are not used to read the electric charge therefrom in said step a); and d) transferring the electric charge read out in said step c) and the electric charge read out in said step a) in said vertical charge transfer channel regions, as claimed in claim 15, as amended.

For at least these reasons, Applicant submits that independent claims 1, 6, 11 and 15, as amended, are allowable over the cited prior art. As claims 1, 6, 11 and 15 are allowable, Applicant submits that claims 2-5, 7-10, 12 and 16, which depend from

allowable claims 1, 6, 11 and 15, respectively, are likewise allowable over the cited prior art at least for this reason.

With regard to each of the rejections under §103 in the Office Action, it is also respectfully submitted that the Examiner has not yet set forth a *prima facie* case of obviousness. The PTO has the burden under §103 to establish a *prima facie* case of obviousness. In re Fine, 5 U.S.P.Q.2nd 1596, 1598 (Fed. Cir. 1988). Both the case law of the Federal Circuit and the PTO itself have made clear that where a modification must be made to the prior art to reject or invalidate a claim under §103, there must be a showing of proper motivation to do so. The mere fact that a prior art reference could arguably be modified to meet the claim is insufficient to establish obviousness. The PTO can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. Id. In order to establish obviousness, there must be a suggestion or motivation in the reference to do so. See also In re Gordon, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984) (prior art could not be turned upside down without motivation to do so); In re Rouffet, 149 F.3d 1350 (Fed. Cir. 1998); In re Dembiczak, 175 F.3d 994 (Fed. Cir. 1999); In re Lee, 277 F.3d 1338 (Fed. Cir. 2002).

In the Office Action, the Examiner merely states that the motivation for combining the references is found in certain advantages stated by the Examiner (see, e.g., Office Action at pp. 14-15). The Examiner, however, indicates nothing from within the applied references to evidence the desirability of this combination. This is an insufficient showing of motivation.

CONCLUSION

For all of the above reasons, it is respectfully submitted that the claims now pending patentability distinguish the present invention from the cited references. Accordingly, reconsideration and withdrawal of the outstanding rejections and an issuance of a Notice of Allowance are earnestly solicited.

Should the Examiner determine that any further action is necessary to place this application into better form, the Examiner is requested to contact the undersigned representative at the telephone number listed below.

In the event this paper is not considered to be timely filed, the Applicants hereby petition for an appropriate extension of time. The Commissioner is hereby authorized to charge any fee deficiency or credit any overpayment associated with this communication to Deposit Account No. 01-2300, referencing docket number 107317-00044.

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